

WHAT IS CLAIMED IS:

1. A method of providing natural language support for users running queries against a database, comprising:
 - providing a data abstraction model comprising a plurality of logical fields abstractly describing physical data residing in the database; and
 - associating the data abstraction model with a language resource component defining a natural language expression for each of the plurality of logical fields.
2. The method of claim 1, further comprising:
 - displaying, to a user, at least a portion of the data abstraction model in accordance with the natural language expression defined by the language resource component.
3. The method of claim 1, further comprising:
 - creating the language resource component for the data abstraction model, the creating comprising mapping a default value to each logical field of the plurality of logical fields.
4. The method of claim 1, wherein the associating comprises:
 - generating, in the data abstraction model, a reference to the language resource component to associate the data abstraction model with the language resource component.
5. The method of claim 4, wherein the associated language resource component is an XLIFF resource.
6. A method of providing natural language support for users running queries against a database, comprising:

providing a data abstraction model comprising a plurality of logical fields abstractly describing physical data residing in the database; and

providing translation information for the data abstraction model describing translations of each of the plurality of logical fields from a first natural language expression to a second natural language expression.

7. The method of claim 6, wherein the first and second natural language expressions are two different languages.
8. The method of claim 6, wherein the first and second natural language expressions are two different variations on the same language.
9. The method of claim 6, wherein providing translation information comprises providing an XLIFF resource.
10. The method of claim 6, wherein the data abstraction model further comprises a reference to at least a portion of the translation information.
11. The method of claim 10, wherein the referenced portion is a default file.
12. The method of claim 6, wherein providing translation information comprises successively loading language resource files, wherein each successive language resource file comprises translations of increasing specificity to replace relatively less specific translations of one or more previously loaded language resource files.
13. The method of claim 6, wherein the translation information further describes translations of each of the plurality of logical fields from the first natural language expression to a third natural language expression, and further comprising:

displaying, to a user, at least a portion of the data abstraction model using only one of the first natural language expression, the second natural language expression and the third natural language expression.

14. The method of claim 13, wherein which language expression is used to display the portion of the data abstraction model is based on user parameters.

15. The method of claim 14, wherein the user parameters describe a context of the user.

16. The method of claim 6, further comprising:
retrieving an abstract query expressed in the first natural language expression;
translating the abstract query on the basis of the translation information to express the abstract query in the second natural language expression; and
displaying the abstract query expressed in the second natural language expression.

17. A method of providing natural language support for users running queries against a database, comprising:
retrieving an abstract query comprising a plurality of logical fields, each corresponding to a logical field specification of a data abstraction model abstractly describing physical data residing in the database;
determining, from the data abstraction model, an associated language resource component;
determining, from the associated language resource component, a natural language expression for the plurality of logical fields of the abstract query; and
displaying the abstract query in the determined natural language expression.

18. The method of claim 17, further comprising, prior to displaying, translating the abstract query from another natural language expression in which the initially written.

19. The method of claim 17 wherein the associated language resource component is a language resource file, the data abstraction model including a reference to the language resource file.

20. A computer-readable medium containing a program which, when executed by a processor, performs a process of providing natural language support for users running queries against a database, the process comprising:

generating a data abstraction model comprising a plurality of logical fields abstractly describing physical data residing in the database; and

associating the data abstraction model with a language resource component defining a natural language expression for each of the plurality of logical fields.

21. The computer-readable medium of claim 20, wherein the process further comprises:

displaying, to a user, at least a portion of the data abstraction model in accordance with the natural language expression defined by the language resource component.

22. The computer-readable medium of claim 20, wherein the process further comprises:

creating the language resource component for the data abstraction model, the creating comprising mapping a default value to each logical field of the plurality of logical fields.

23. The computer-readable medium of claim 20, wherein the associating comprises:

generating, in the data abstraction model, a reference to the language resource component to associate the data abstraction model with the language resource component.

24. The computer-readable medium of claim 23, wherein the associated language resource component is an XLIFF resource.

25. A computer-readable medium containing a program which, when executed by a processor, performs a process of providing natural language support for users running queries against a database, the process comprising:

retrieving a data abstraction model comprising a plurality of logical fields abstractly describing physical data residing in the database; and

retrieving translation information for the data abstraction model describing translations of each of the plurality of logical fields from a first natural language expression to a second natural language expression.

26. The computer-readable medium of claim 25, wherein the first and second natural language expressions are two different languages.

27. The computer-readable medium of claim 25, wherein the first and second natural language expressions are two different variations on the same language.

28. The computer-readable medium of claim 25, wherein retrieving translation information comprises retrieving an XLIFF resource.

29. The computer-readable medium of claim 25, wherein the data abstraction model further comprises a reference to at least a portion of the translation information.

30. The computer-readable medium of claim 29, wherein the referenced portion is a default file.

31. The computer-readable medium of claim 25, wherein retrieving translation information comprises successively loading language resource files, wherein each successive language resource file comprises translations of increasing specificity to

replace relatively less specific translations of one or more previously loaded language resource files.

32. The computer-readable medium of claim 25, wherein the translation information further describes translations of each of the plurality of logical fields from the first natural language expression to a third natural language expression, and the process further comprising:

displaying, to a user, at least a portion of the data abstraction model using only one of the first natural language expression, the second natural language expression and the third natural language expression.

33. The computer-readable medium of claim 32, wherein which language expression is used to display the portion of the data abstraction model is based on user parameters.

34. The computer-readable medium of claim 33, wherein the user parameters describe a context of the user.

35. The computer-readable medium of claim 25, wherein the process further comprises:

retrieving an abstract query expressed in the first natural language expression;
translating the abstract query on the basis of the translation information to express the abstract query in the second natural language expression; and
displaying the abstract query expressed in the second natural language expression.

36. A computer-readable medium containing a program which, when executed by a processor, performs a process of providing natural language support for users running queries against a database, the process comprising:

retrieving an abstract query comprising a plurality of logical fields, each corresponding to a logical field specification of a data abstraction model abstractly describing physical data residing in the database;

determining, from the data abstraction model, an associated language resource component;

determining, from the associated language resource component, a natural language expression for the plurality of logical fields of the abstract query; and

displaying the abstract query in the determined natural language expression.

37. The computer-readable medium of claim 36, wherein the process further comprises, prior to displaying, translating the abstract query from another natural language expression in which the initially written.

38. The computer-readable medium of claim 36 wherein the associated language resource component is a language resource file, the data abstraction model including a reference to the language resource file.

39. A computer system, comprising:

a database having data; and

a natural language support manager residing in memory for providing natural language support for users running queries against the data of the database, the natural language support manager being configured for:

retrieving a data abstraction model comprising a plurality of logical fields abstractly describing physical data residing in the database; and

associating the data abstraction model with a language resource component defining a natural language expression for each of the plurality of logical fields.

40. A computer system, comprising:

a database having data; and

a natural language support manager residing in memory for providing natural language support for users running queries against the data of the database, the natural language support manager being configured for:

- retrieving a data abstraction model comprising a plurality of logical fields abstractly describing physical data residing in the database; and

- retrieving translation information for the data abstraction model describing translations of each of the plurality of logical fields from a first natural language expression to a second natural language expression.

41. A computer system, comprising:

- a database having data; and

- a natural language support manager residing in memory for providing natural language support for users running queries against the data of the database, the natural language support manager being configured for:

- retrieving an abstract query comprising a plurality of logical fields, each corresponding to a logical field specification of a data abstraction model abstractly describing physical data residing in the database;

- determining, from the data abstraction model, an associated language resource component;

- determining, from the associated language resource component, a natural language expression for the plurality of logical fields of the abstract query; and displaying the abstract query in the determined natural language expression.